

WE CLAIM:

1. A process for manufacturing a pant-like absorbent garment having single-piece side panels, comprising the steps of:

providing a garment chassis having a front portion, a back portion, a central region between the front and back portions, and first and second lateral edges on each of the front and back portions;

folding the garment chassis in the central region so that the front and back portions are positioned adjacent to each other, the first lateral edge of the front portion is proximate to the first lateral edge of the back portion, and the second lateral edge of the front portion is proximate to the second lateral edge of the back portion;

positioning a first side panel adjacent the first lateral edges of the front and back portions;

positioning a second side panel adjacent the second lateral edges of the front and back portions; and

folding the first and second side panels so that opposing edges of the first side panel overlap the first lateral edges of the front and back portions, and opposing edges of the second side panel overlap the second lateral edges of the front and back portions.

2. The process of Claim 1, further comprising the step of applying an adhesive to the opposing edges of the first side panel and the opposing edges of the second side panel.

3. The process of Claim 2, wherein the adhesive is applied before the first and second side panels are folded.

4. The process of Claim 1, further comprising the step of adhesive bonding the first and second side panels to the chassis.

5. The process of Claim 1, further comprising the step of thermally bonding the first and second side panels to the chassis.

6. The process of Claim 1, further comprising the step of ultrasonically bonding the first and second side panels to the chassis.

7. The process of Claim 1, further comprising the step of stitch bonding the first and second side panels to the chassis.

8. The process of Claim 1, further comprising the step of transporting a plurality of chassis along a continuous conveyor in a direction of travel, with the first and second lateral edges of the front and back portions substantially aligned with the direction of travel.

9. The process of Claim 8, further comprising the steps of applying first side panels to the plurality of chassis using a first panel applicator located on a first side of the conveyor, and applying second side panels to the plurality of chassis using a second panel applicator located on a second side of the conveyor.

10. The process of Claim 9, wherein the first and second panel applicators comprise rotary conveyors.

11. The process of Claim 1, wherein the side panels are folded over so that the opposing edges of each side panel are at angles of about 90-135 degrees relative to the chassis.

12. The process of Claim 1, wherein the side panels are folded over so that the opposing edges of each side panel are at angles of about 100-125 degrees relative to the chassis.

13. A disposable pant-like absorbent garment made according to the process of Claim 1.

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14. A disposable absorbent garment, comprising:
a chassis including at least a liquid-permeable bodyside liner, an absorbent layer, and a substantially liquid-impermeable outer cover;
a first seamless single-piece side panel joining a first edge of a front portion of the chassis to a first edge of a back portion of the chassis; and
a second seamless, single-piece side panel joining a second edge of the front portion of the chassis to a second edge of the back portion of the chassis.

15. The disposable absorbent garment of Claim 14, wherein the first and second seamless side panels comprise an elastic material.

16. The disposable absorbent garment of Claim 14, wherein the chassis and seamless side panels define a waist opening and first and second leg openings.

17. The disposable absorbent garment of Claim 14, wherein the first and second side panels are bonded to the chassis using an adhesive.

18. The disposable absorbent garment of Claim 14, wherein the first and second side panels are bonded to the chassis by thermal heat sealing.

19. The disposable absorbent garment of Claim 14, wherein the first and second side panels are bonded to the chassis using ultrasonic bonds.

20. The disposable absorbent garment of Claim 14, wherein the edges of the first and second side panels are at angles of about 90-135 degrees relative to a waistline of the chassis.

21. The absorbent garment of Claim 20, wherein said angle is about 90-115 degrees.

22. The disposable absorbent garment of Claim 14, wherein the first and second side panels are bonded to the chassis using thermal stitch bonds.

23. The disposable absorbent garment of Claim 14, wherein the first and second side panels are attached to the chassis using threaded stitch bonds.

24. The disposable absorbent garment of Claim 14, comprising a diaper.

25. The disposable absorbent garment of Claim 14, comprising a child training pant.

26. The disposable absorbent garment of Claim 14, comprising an adult incontinence garment.

27. The disposable absorbent garment of Claim 14, comprising swim wear.

28. An apparatus for manufacturing a pant-like absorbent garment having single-piece side panels, comprising:

a conveyor movable in a direction of travel;

a first rotary panel applicator on a first side of the conveyor movable in a counter-clockwise direction; and

a second rotary panel applicator on a second side of the conveyor movable in a clockwise direction.

29. The apparatus of Claim 28, further comprising a source of controlled vacuum for each rotary panel applicator.

30. The apparatus of Claim 28, wherein each rotary panel applicator comprises a plurality of foldable porous plates around its periphery.

31. The apparatus of Claim 30, wherein each rotary panel applicator comprises four of the porous plates.

32. The apparatus of Claim 30, wherein each rotary panel applicator comprises a mechanical linkage that opens and closes each foldable porous plate.

33. The apparatus of Claim 32, wherein each rotary panel applicator further comprises a fixed cam operable to extend and retract the clamping rods during rotation of the panel applicator.

34. The apparatus of Claim 28, wherein each rotary panel applicator further comprises a panel pick-up station.

35. The apparatus of Claim 28, wherein each rotary panel applicator further comprises an adhesive application station.

36. The apparatus of Claim 34, wherein each rotary panel applicator further comprises an adhesive application station.

37. The apparatus of Claim 28, wherein each rotary panel applicator further comprises at least one panel folding station.

38. The apparatus of Claim 34, wherein each rotary panel applicator further comprises at least one panel folding station.

39. The apparatus of Claim 28, further comprising one or more additional rotary panel applicator on each side of the conveyor.